

EXPERT REPORT
OF
NORMAN I. KLEIN MD
Clinical Assistant Professor of Medicine
NYU Langone Medical Center

Kelsey Cascadia Rose Juliana; Xiuhtezcatl Tonatiuh M.,
through his Guardian Tamara Roske-Martinez; et al., Plaintiffs,

v.

The United States of America; Donald Trump, in his official
capacity as President of the United States; et al.,

IN THE UNITED STATES DISTRICT COURT
DISTRICT OF OREGON
(Case No. 6:15-cv-01517-TC)

Prepared for Defendant and Attorneys for Defendant

I, Norman I. Klein MD, have been retained by the Defendants in the above cited case, to provide expert opinion and testimony, regarding the allegations of respiratory health issues set forth in Plaintiffs' complaint and Plaintiffs' individual declarations, as well as Plaintiffs' and Plaintiffs' experts' discussion of the relationship between those alleged respiratory health issues and climate change. I am being compensated for my work at the rate of \$375 per hour, with a \$3,000 fee for half-day or \$5,500 fee for full-day deposition testimony or court appearance. My payment is not contingent on the outcome of this—or any other—litigation.

I am board certified in Pediatrics and in Allergy Immunology. I have been practicing medicine with a focus on treating asthma and other respiratory diseases in children, adolescents and adults since 1976. I have had numerous teaching and academic positions during this time. in preparing this report, I reviewed the following documents:

1. The first amended Complaint (ECF No. 7)
2. Declaration of Dr. Hansen and accompanying exhibits
3. The article attached as Exhibit 3 to Plaintiffs' complaint (ECF No. 7-4).
4. Declarations in support of Plaintiffs' motion for summary judgement
5. Expert reports of:
 - a. Dr. Frumkin
 - b. Dr. Van Susteren
 - c. Drs. Pacheco and Paulson

I understand that discovery in this case is ongoing. To the extent relevant materials or testimony is revealed during the course of those discovery efforts, I reserve my right to amend this report, as appropriate.

I have been asked to opine on whether Plaintiffs' expert reports, specifically the reports from Drs. Frumkin, Pacheco, and Paulson (collectively, "Expert Reports"), establish a causal connection between the harms the individual Plaintiffs complain of and climate change. The reports are, in essence, a recap of statistics, probability, and predictions of a global nature. With respect to the focus of this report (i.e., respiratory ailments like asthma and allergies), Drs. Frumkin, Paulson, and Pacheco overgeneralize and refocus the broader abstract analyses cited in the Expert Reports and apply those analyses to the specific claims of harm documented in the Complaint and in the Plaintiffs' individual declarations

In order to assess the soundness of the Expert Reports' direct application of (1) general risk studies and general probabilities that climate change can increase the risks of, among other things, asthma and allergies to (2) the specific complaints of asthma and allergies set forth in Plaintiffs' complaint and declarations, medical professionals must determine if those conditions apply to a particular individual patient's symptoms and condition at the time of the visit, as opposed to a theoretical , and by ruling in or out other predisposing circumstances or cause. When I see a patient in my office, a complete, detailed history is taken to document triggers and possible triggers for their allergy or asthma symptoms. The exact symptoms, severity, location, and timing are determined, as accurately as possible, to attempt to document specific causation for the particular incident, as well as the condition in general. This is followed by a complete physical examination. Testing for allergens and for pulmonary function would then be done as indicated for each specific individual. Getting an individual's specific causation or trigger factor(s) identified allows for more effective targeted therapy. This way, prescribed life style or environmental changes and medications will be most effective.

As a threshold matter, a medical professional would not simply rely on a complaint or a declaration filed in a lawsuit to establish asthma and/or allergy symptoms. In order to confirm that these symptoms are, in fact, experienced, a medical professional would take the examination steps outlined in the preceding paragraph.

Even if the individual Plaintiffs' complaints of allergy and asthma symptoms were credited, an examination of other potential contributing factors must be evaluated before climate change could be determined as a contributing, much less primarily contributing, factor to these specific Plaintiffs. Asthma, like many medical conditions, is multi factorial. Genetics plays an even larger role than does environment. There are a number of theories for triggering asthma. For example, the Hygiene Hypothesis suggests living conditions in much of the world have become too (bacteriologically) clean, so children aren't being exposed to germs that train their immune systems to differentiate between harmless and harmful substances. This Hypothesis finds support in, among other observations, the fact that children growing up on farms who are exposed to more bacterial endotoxin have less allergies than their urban counterparts. In addition, there is research suggesting that early antibiotic usage, changes bacterial flora impacting development of allergies. Also, the increased use of Acetaminophen (Tylenol) may have an impact on increased risk for allergies and asthma. Moreover, lifestyle and diet changes that lead to obesity have been suggested by many experts to increase asthma prevalence. Vitamin D deficiency from excessive time indoors with inadequate sunlight exposure has also been suggested as a likely

causative factor. Finally, the number one trigger of asthma exacerbation is viral infection, particularly influenza.¹

Similarly, other respiratory allergies also have contributing factors that do not concern climate change. Many of the same risk and cause factors for asthma apply to Allergic Rhinitis. For example, Genetics is again of prime importance, as are the Hygiene Hypothesis and viral infection.²

By not evaluating these and other factors and focusing only on a single possible trigger for the asthma and allergy symptoms set forth in the complaint and in Plaintiffs' declarations, Drs. Frumkin, Pacheco, and Paulson offer an incomplete and, therefore, misleading explanation for the relationship between those declarations and climate change. There are no medical reports, test results, ER or hospital visits, or in fact *any* objective documentation of any kind in the Plaintiff's complaint. By way of example, Plaintiffs' complaint alleges, "Additionally, Alex is allergic to pollen and suffers worse in unseasonably warm years. He also suffers from asthma, which is worse in the increasingly smoky summer months. Alex's allergies and asthma will worsen as climate change caused by defendants worsens." (Complaint ¶ 28.) To substantiate these allegations, a medical professional should review medical records, examine Alex, and explore alternative explanations beyond Defendants' actions. In the absence of this data, I see no reliable basis for substantiating these allegations or the allegation's conclusion that

¹ Guidelines for the Diagnosis and Management of Asthma pp.22-23, 48-50, 165-89; Figs. 3-1, 3-2, 3-17 (available at https://www.nhlbi.nih.gov/sites/default/files/media/docs/asthgdln_1.pdf).

² A general discussion of these factors can be found at J Allergy Clin Immunol. 2001 Nov; 108 (5 Suppl): S147-334, as well as [https://www.jacionline.org/article/S0091-6749\(11\)01158-4/fulltext](https://www.jacionline.org/article/S0091-6749(11)01158-4/fulltext) and <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1661616/>.

“Alex’s specific allergies and asthma will worsen as climate change caused by defendants worsen.”

In conclusion, Drs. Frumkin, Pacheco, and Paulson confuse general correlations from abstract epidemiological studies with clinical examination of specific instances of asthma and allergy symptoms. One cannot tie a specific instance of allergies or asthma to climate change without a specific evaluation of the patient and an examination of all potential contributors to allergies/asthma. Because Drs. Frumkin, Pacheco, and Paulson did not conduct the necessary evaluation and/or analysis to tie the abstract studies they rely on to the specific symptoms set forth in the complaint and in the Plaintiffs’ declarations, I opine that the conclusions Drs. Frumkin, Pacheco, and Paulson reach concerning the role that climate change has had on the specific instances of asthma and allergy complaints by the specific Plaintiffs in this case to be unreliable.

Respectfully submitted,

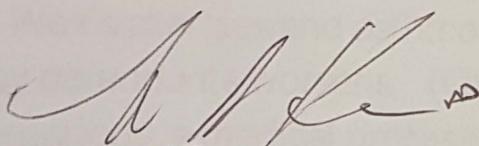
Norman I. Klein, MD

August 13, 2018

"Alex's specific allergies and asthma will worsen as climate change caused by defendants worsen."

In conclusion, Drs. Frumkin, Pacheco, and Paulson confuse general correlations from abstract epidemiological studies with clinical examination of specific instances of asthma and allergy symptoms. One cannot tie a specific instance of allergies or asthma to climate change without a specific evaluation of the patient and an examination of all potential contributors to allergies/ asthma. Because Drs. Frumkin, Pacheco, and Paulson did not conduct the necessary evaluation and/or analysis to tie the abstract studies they rely on to the specific symptoms set forth in the complaint and in the Plaintiffs' declarations, I opine that the conclusions Drs. Frumkin, Pacheco, and Paulson reach concerning the role that climate change has had on the specific instances of asthma and allergy complaints by the specific Plaintiffs in this case to be unreliable.

Respectfully submitted,



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August 13, 2018

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PROFESSIONAL EXPERIENCE

June 1981- September 2017

BROOKDALE UNIVERSITY HOSPITAL AND MEDICAL CENTER, BROOKLYN, NY
Attending in Charge – Clinical Immunology and Allergy

June 1981

SUNY HEALTH SCIENCE AT BROOKLYN
Assistant Professor of Pediatrics – SUNY

December 2015

NYU Langone Medical Center
Clinical Assistant Professor of Medicine

June 1981- September 2017

BROOKDALE UNIVERSITY HOSPITAL AND MEDICAL CENTER, BROOKLYN, NY
Attending – Department of Pediatrics
Associate Medical Staff – Department of Medicine

BROOKLYN HOSPITAL CENTER, BROOKLYN, NY
Medical Staff – Department of Pediatrics

July 2014

New York College of Osteopathic Medicine, NY, NY
Adjunct Clinical Assistant Professor – Department of Pediatrics

July 2014

Ross University School of Medicine
Clinical Assistant Professor of Pediatrics

EDUCATION

1972 Yeshiva University, New York
Magna Cum Laude - BA Biology

1976 SUNY of New York at Brooklyn
1976 – MD

1976 – 1978 Resident – Pediatrics
1978 – 1979 Chief Resident - Pediatrics
The Brookdale University Hospital and Medical Center, Brooklyn, New York

1979-1981 Fellow - Allergy/Immunology
Albert Einstein College of Medicine, Bronx, New York

CERTIFICATION & LICENSURE

- ◆ American Board of Allergy & Immunology a conjoint Board of American Board of Internal Medicine and American Board of Pediatrics – No. 26397 – Board certified September 1981
- ◆ American Board of Pediatrics – No. 2399 certified October 1983
- ◆ New York State License: No. 132880 – October 1977

HONORS/AWARDS

- ◆ Alpha Epsilon Delta - Pre Medical Honor Society
- ◆ NY Magazine "Best Doctors" 2005,2006,2007,2008,2009,2010,2011
- ◆ US News and World Report "Best Doctors" 2011
- ◆ New York Times "Super Doctors" 2012, 2013,2014,2015,2016,2017

FELLOWSHIPS AND RESEARCH GRANTS

- 1) Brookdale University Hospital – Department of Psychiatry, July – August 1975 (summer fellowship in adult/child psychiatry under Dr. J. Frosch)
- 2) SUNY – Health Science Center at Brooklyn – Department of Pulmonary Medicine, July – August 1973 (summer research from the New York Lung Association "Search for Humeral Mediators of Exercise Induced Bronchoconstriction" under Dr. Harold Lyons and Dr. Albert Heurich)
- 3) Human Development Biology Training Grant NIH-T-32HDO 7053, Dr. Henry L. Barnett, July 1979 – June 1981
- 4) Brooklyn Pediatric AIDS Demonstration Project, 8/1/89 – 7/31/92 (sponsoring agency- HRSA)

ORGANIZATIONS AND SOCIETIES

- ◆ Member and Trustee – Children's Immunology Research Fund – September 1982
- ◆ Brooklyn Pediatric Society – 1981
- ◆ Fellow American College of Allergists – June 1985

PUBLICATIONS

1. Goldstein, J., Klein, N.I., and Rubinstein, A. *Culture of rabbit tracheal epithelial cells in monolayer*. Amer. Rev. Resp. Dis. Vol.112 No 4, April 1980 p.70
2. Klein, N.I., Goldstein, H. and Rubinstein, A. *Construction of a tracheal pouch in the rabbit. I. The secretory IGA system of the pouch*, Amer. Rev. Resp. Dis. Vol. 121 No. 4, April 1980 p 367.
3. Rubinstein, A., Sicklick, M., Gupta,A., Bernstein, L., Klein, N.I., *Acquired Immuno-deficiency with T4/T8 ratios in infants born to promiscuous and Drug-Addicted mothers*. JAMA, May 6, 1983, Vol 249, No. 17.
4. Goldstein, NH, Klein, N.I. Rubinstein, A., Construction of a Tracheal Pouch in Rabbits lung (1983) 161:207-211.
5. Seigel, W., Klein, N.I., Fresko, O., Mestel, A., *Ulcerations of the large and small intestines secondary to cytomegalovirus in a child with acquired immuno-deficiency syndrome – submitted for publication*.
6. Lashley, M., Klein, N.I., *Case Report: exercise-induced anaphylaxis in a 4-year-old boy*, Annals of Allergy Vol.64, Number 4,April 1990

List of Cases in Which Dr. Klein Has Testified
at Trial or Deposition in the Last Four Years

1) Beard v. Ingram and Bell et al.
Jan. 2 2014
Fink Smith & Carney 34 w. 37th st NY, NY

2nd deposition
Nov. 24 2015
Deitz Reporting 26 Court St
Brooklyn, NY

2) Amundsen v. Flanagan
Dec. 4 2014
Office of Susan Hand & Associates
One South Bay Ave.
Islip , NY

3) Murphy v. The Regents of the University of California
Oct. 21 2016
Bee Reporting
55 Maple Ave.
Rockville Centre NY

4) Alexander v. Accentia
Jan 23 2017
Bee Reporting
55 Maple Ave.
Rockville Centre NY

5) Alexander v. Lemley
June 28 2018
Onondaga County Courthouse
Syracuse, NY